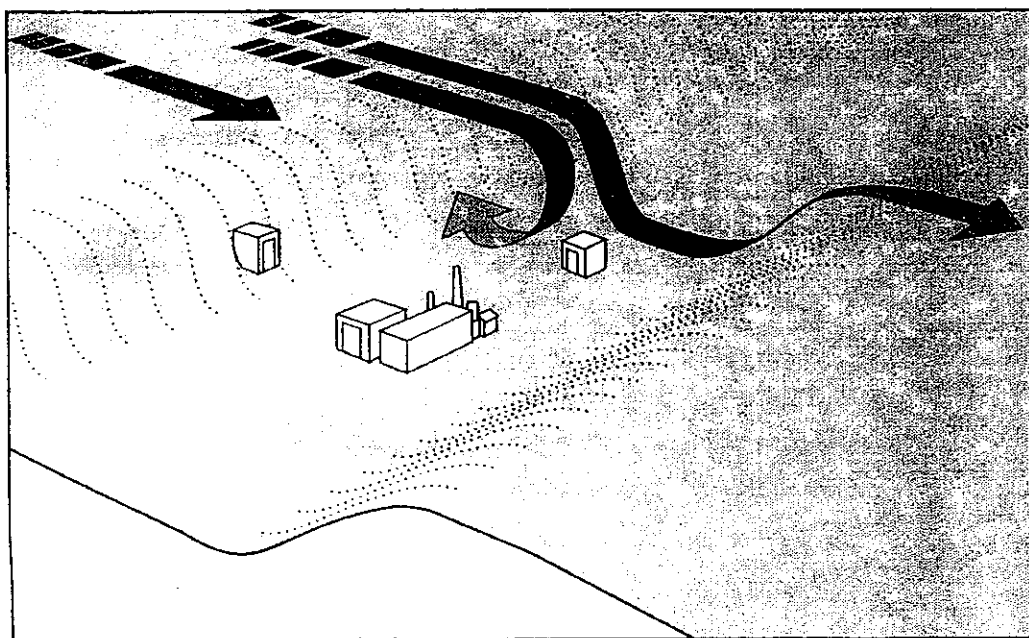




Environmental
Programs

Site Selection for the Monitoring of SO_2 and PM_{10} in Ambient Air

Self - Instructional Course SI:436





Environmental Programs

Industrial Extension Service
College of Engineering
North Carolina State University

Site Selection for the Monitoring of SO₂ and PM₁₀ in Ambient Air

Self - Instructional Course SI:436

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Course Introduction

Description

This course trains you to site ambient SO₂ and PM₁₀ monitors. It should take you 35 hours to complete. You will learn general concepts of ambient monitor site selection and specific, detailed considerations and procedures for selecting SO₂ and PM₁₀ ambient monitoring sites. Course topics include:

- use of monitoring data and related monitor siting objectives
- special considerations associated with SO₂ and PM₁₀ monitoring
- procedures and criteria for site selection for SO₂ and PM₁₀ monitors
- rationale for SO₂ and PM₁₀ siting criteria
- network design and probe siting criteria for SO₂ and PM₁₀ SLAMS, NAMS, and PSD monitoring stations.

Objectives

Upon completion of this course, you will be able to:

- 1 describe general considerations for siting ambient air quality monitors.
- 2 select the optimum general siting area and probe location for SO₂ and PM₁₀ monitors for a given monitoring objective.
- 3 describe the logic of the SO₂ and PM₁₀ siting criteria.

Audience

This course is intended primarily for chemists and engineers employed by federal, state, or local air pollution control agencies or private organizations involved in PSD ambient monitoring. Students should have prior experience with air quality monitoring, but this is not required to take the course.

Required Materials

- *Site Selection for the Monitoring of SO₂ and PM₁₀ in Ambient Air: Self-Instructional Course SI:436*
- EPA-450/3-77-013, *Optimum Site Exposure Criteria for SO₂ Monitoring*
- EPA-450/4-87-009, *Network Design and Optimum Site Exposure Criteria for Particulate Matter*
- protractor, ruler, pencil or pen
- optional: CBT:436 a computer simulation that provides practice selecting sites for SO₂ and PM₁₀ monitors

Suggested Prerequisites

Completion of the following EPA APTI courses or the equivalent experience in ambient monitoring is recommended:

- 1 *SI:422 Air Pollution Control Orientation*
or
SI:452 Principles and Practice of Air Pollution Control
- 2 *SI:435 Atmospheric Sampling*

SI:422 and SI:452 are survey courses on air quality management. SI:435 covers the topics of site selection and sampling methods.

Taking the Course

This course directs your progress through the reference texts
1) *Optimum Site Exposure Criteria for SO₂ Monitoring* and
2) *Network Design and Optimum Site Exposure Criteria for Particulate Matter*. It also guides you through the excerpts of 40 CFR 58 Appendices D and E and *Ambient Monitoring Guidelines for Prevention of Significant Deterioration (PSD)*, which are included on pages 7-4 through 7-23.

Each of the seven lessons contains:

- learning goal and objectives
- procedure
- reading assignment topics
- reading guidance
- review exercise
- review exercise answers.

For each lesson, follow these steps:

- 1 Do the assigned reading. Take notes in the margins or on blank pages in this book.
- 2 Do the review exercise.
- 3 Check your answers against the answer key.
- 4 Review the pages for any material you missed.

Completing the Course

Two quizzes and a final examination accompany this book. Take the first quiz after lesson 2, the second quiz after lesson 4, and the final exam after you have finished the course.

The quizzes are provided for your review and practice only. Check your answers against the answer key provided, but *do not* send in your answers.

The final examination counts as 100% of your course grade. To receive your certificate of completion and 3.5 Continuing Education Units (CEUs), you must score 70 or above on the exam. Forward the answer sheet, to be graded, and any questions to the appropriate Registrar listed below:

Registrar - *Private Sector*
NCSU Environmental Programs
Box 7513
Raleigh, NC 27695 - 7513

Phone: (919) 515-4659
Fax: (919) 515-4386

or

Registrar - *EPA/State Agency*
U.S. Environmental Protection Agency
MD-17
Research Triangle Park, NC 27711

Phone: (919) 541-2497
FAX: (919) 541-5598